RF Exposure Evaluation Report

APPLICANT	:	D-Link Corporation
EQUIPMENT	:	4G LTE Router
BRAND NAME	:	D-Link
MODEL NAME	:	DWR-922
FCC ID	:	KA2WR922C2
STANDARD	:	47 CFR Part 2.1091

We, SPORTON INTERNATIONAL INC., would like to declare that the device has been evaluated in accordance with 47 CFR Part 2.1091, and pass the limit. Without written approval of SPORTON INTERNATIONAL INC., the test report shall not be reproduced except in full.

Reviewed by: Eric Huang / Manager

Approved by: Jones Tsai / Manager

Testing Laboratory
1190

SPORTON INTERNATIONAL INC.
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Revision History

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FA720930	Rev. 01	Initial issue of report	Apr. 19, 2017

1. Administration Data

1.1. Testing Laboratory

Testing Laboratory	
Test Site	SPORTON INTERNATIONAL INC.
Test Site Location	No.52, Hwa Ya 1st Rd., Hwa Ya Technology Park, Kwei-Shan District, Taoyuan City, Taiwan (R.O.C.) TEL: +886-3-327-3456 FAX: +886-3-328-4978

Applicant	
Company Name	D-Link Corporation
Address	No.289, Sinhu 3rd Rd, Neihu District Taipei City 114 Taiwan

Manufacturer	
Company Name	Advance Multimedia Internet Technology Inc.
Address	No.28, Lane 31, Sec. 1, Huandong Rd., Sinshih District, Tainan City 74146, Taiwan (R.O.C.)

2. Description of Equipment Under Test (EUT)

Product Feature & Specification	
EUT Type	4G LTE Router
Brand Name	D-Link
Model Name	DWR-922
FCC ID	KA2WR922C2
Wireless Technology and Frequency Range	WLAN 2.4GHz Band: 2412 MHz ~ 2462 MHz
Mode	802.11b/g/n HT20/HT40
HW Version	C2
EUT Stage	Production Unit

Remark: The above EUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.

3. Maximum RF average output power among production units

Band / Channel / Frequency (MHz)			IEEE 802.11 Average Power (dBm)			
			Ant 1			
			11b	11g	HT20	HT40
2.4GHz WLAN	Ch 1	2412	**20.5**	17.5	17	
	Ch 3	2422				13.5
	Ch 6	2437	14.5	16	18	15
	Ch 9	2452				12
	Ch 11	2462	15	15.5	14.5	

Band / Channel / Frequency (MHz)			IEEE 802.11 Average Power (dBm)	
			Ant 1 + 2	
			HT20	HT40
2.4GHz WLAN	Ch 1	2412	18.5	
	Ch 3	2422		17
	Ch 6	2437	18.5	18.5
	Ch 9	2452		17
	Ch 11	2462	17.5	

4. RF Exposure Limit Introduction

According to ANSI/IEEE C95.1-1992, the criteria listed in Table 1 shall be used to evaluate the environmental impact of human exposure to radio frequency (RF) radiation as specified in §1.1310.

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm^2)	Averaging time (minutes)
(A) Limits for Occupational/Controlled Exposures				
0.3-3.0	614	1.63	*(100)	6
3.0-30	1842/f	4.89/f	*(900/f2)	6
30-300	61.4	0.163	1.0	6
300-1500			f/300	6
1500-100,000			5	6
(B) Limits for General Population/Uncontrolled Exposure				
0.3-1.34	614	1.63	*(100)	30
1.34-30	824/f	2.19/f	*(180/f2)	30
30-300	27.5	0.073	0.2	30
300-1500			f/1500	30
1500-100,000			1.0	30

The MPE was calculated at 20 cm to show compliance with the power density limit.

The following formula was used to calculate the Power Density:

$$S = \frac{PG}{4\pi R^2}$$

Where:
S = Power Density
P = Output Power at Antenna Terminals
G = Gain of Transmit Antenna (linear gain)
R = Distance from Transmitting Antenna

5. Radio Frequency Radiation Exposure Evaluation

5.1. Standalone Power Density Calculation

Band	Antenna Gain (dBi)	Maximum Power (dBm)	Maximum EIRP (dBm)	Maximum EIRP (W)	Average EIRP (mW)	Power Density at 20cm (mW/cm^2)	Limit (mW/cm^2)	Power Density / Limit
2.4GHz WLAN	3.80	20.50	24.300	0.269	269.153	0.054	1.000	0.054

5.2. Collocated Power Density Calculation

WWAN Power Density / Limit	WLAN Power Density / Limit	Σ(Power Density / Limit) of WWAN+WLAN
0.220	0.054	0.274

Note:

1. The WWAN operation is also into this host, and collocated power density calculation in above table, for the power density of WWAN detail information please refer to original report (FCC ID : SRQ-ZM8620).
2. Σ(Power Density / Limit): This is a summation of [(power density for each transmitter/antenna included in the simultaneous transmission)/ (corresponding MPE limit)], for WWAN + WLAN.
3. Considering the WWAN module collocation with the WLAN transmitter of the EIRP performance listed in the table above, the aggregated (power density /limit) is smaller than 1, and MPE of 2 collocated transmitters is compliant

Conclusion:

According to 47 CFR §2.1091, the RF exposure analysis concludes that the RF Exposure is FCC compliant.